

What is claimed is:

1. A printed wiring board, comprising:
  - a first circuit conductor extending through at least a part of
  - 5 the printed wiring board;
    - a second circuit conductor extending through at least a part of the printed wiring board; and
    - a plurality of stacked innerlayer panels, wherein at least one of the innerlayer panels comprises:
      - 10 a first electrode formed from a foil and having a termination, wherein the first circuit conductor is coupled to the first electrode at the termination of the first electrode, and wherein the first electrode termination is within a footprint of the first electrode;
      - 15 at least one dielectric disposed over the first electrode; and
      - a second electrode spaced from the first electrode and having a termination, wherein the second electrode, the first electrode, and the dielectric form a capacitor, and
      - 20 wherein the second circuit conductor is coupled to the second electrode termination.
2. The printed wiring board of claim 1, wherein the first circuit conductor extends through the dielectric.
- 25 3. The printed wiring board of claim 2, wherein:
  - the second electrode termination is within a footprint of the second electrode; and
  - the second circuit conductor extends through the dielectric.
- 30 4. The printed wiring board of claim 2, the innerlayer comprising:

a laminate material disposed over the first and second electrodes and over the dielectric, wherein the first circuit conductor extends through the laminate material.

5 5. The printed wiring board of claim 4, wherein the second circuit conductor extends through the laminate material.

6. The printed wiring board of claim 2, the innerlayer comprising:

10 a third electrode spaced from the second electrode and electrically connected to the first electrode, and wherein the first electrode, the second electrode, the dielectric, and the third electrode form a capacitor.

15 7. The printed wiring board of claim 1, wherein the first electrode has a first component side that contacts the dielectric, and a second side opposite to the first side, and wherein the first circuit conductor extends from the second side of the first electrode.

20 8. The printed wiring board of claim 7, wherein the termination of the second electrode is within a footprint of the second electrode.

9. The printed wiring board of claim 7, the innerlayer comprising:

25 a laminate material disposed over the second side of the first electrode, wherein the first circuit conductor extends through the laminate material and the second circuit conductor extends through the laminate material.

30 10. The printed wiring board of claim 7, the innerlayer comprising:

a third electrode spaced from the second electrode and electrically connected to the first electrode, and wherein the first

electrode, the second electrode, the dielectric, and the third electrode form a capacitor.

11. A method of making a printed wiring board, comprising:
  - 5 forming a plurality of stacked innerlayer panels, wherein forming at least one of the innerlayer panels comprises:
    - providing a metallic foil;
    - forming a dielectric over the metallic foil;
    - forming a first electrode from the metallic foil, the first electrode having a termination located within a footprint of the first electrode; and
    - forming a second electrode over the dielectric, the second electrode having a termination, wherein the first electrode, the second electrode, and the dielectric
  - 10 form a capacitor;
  - 15 forming a first circuit conductor, wherein the first circuit conductor extends through at least a portion of the printed wiring board and contacts the first electrode termination; and
  - 20 forming a second circuit conductor, wherein the second circuit conductor contacts the second electrode termination and extends through at least a portion of the printed wiring board.
12. The method of claim 11, wherein forming a dielectric comprises:
  - 25 forming a dielectric having a through-hole, the first circuit conductor extending through the through-hole.
13. The method of claim 12, wherein:
  - 30 the second electrode termination is within a footprint of the second electrode; and
  - 35 forming a second circuit conductor comprises forming a conductive via that extends through the dielectric.

14. The method of claim 12, wherein forming the innerlayer panel comprises:

forming a laminate material over the first and second electrodes and over the dielectric.

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15. The method of claim 14, wherein:

forming the first circuit conductor comprises forming a conductive via through the laminate material; and

10 forming the second circuit conductor comprises forming a conductive via through the laminate material.

16. The method of claim 12, wherein forming the innerlayer panel comprises:

15 forming a third electrode spaced from the second electrode and electrically connected to the first electrode, wherein the first electrode, the second electrode, the third electrode and the dielectric form a capacitor.

17. The method of claim 12, wherein forming the innerlayer 20 panel comprises:

providing a laminate material; and

laminating the metallic foil to the laminate material before forming the first electrode.

25 18. The method of claim 11, wherein the first electrode has a first component side that contacts the dielectric, and a second side opposite to the first side, wherein forming the first circuit conductor comprises:

30 forming the first circuit conductor to extend from the second side of the first electrode.

19. The method of claim 18, wherein:

the second electrode termination is within the footprint of the second electrode; and

forming the innerlayer panel comprises forming a laminate material over the second side of the first electrode.

20. The method of claim 19, wherein:

5 forming a first circuit conductor comprises forming a conductive via through the laminate material; and

forming a second circuit conductor comprises forming a conductive via through the laminate material.

10 21. The method of claim 18, wherein forming the innerlayer panel comprises:

forming a third electrode spaced from the second electrode and electrically connected to the first electrode, wherein the first electrode, the second electrode, the third electrode and the dielectric form a capacitor.

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22. The method of claim 18, wherein forming the innerlayer panel comprises:

providing a laminate material; and  
20 laminating the metallic foil to the laminate material before forming the first electrode.

23. The method of claim 11, wherein forming a plurality of stacked innerlayer panels comprises:

25 providing a specified number of innerlayer panels;  
joining the innerlayer panels together;  
forming a third circuit conductor through at least two of the joined innerlayer panels; and  
incorporating the joined innerlayer panels into the printed  
30 wiring board.